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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/044,163	03/19/98	SHIMOKAWA	T 500.36133X00

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EXAMINER
LE,U

ART UNIT	PAPER NUMBER
2771	

DATE MAILED: 03/30/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

☒ Responsive to communication(s) filed on *Jan 13, 2000* _____ .

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire _____3_____ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-12 and 14-20* _____ is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-12 and 14-20* _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

   ☒ All ☐Some* ☐None of the CERTIFIED copies of the priority documents have been

      ☒ received.

      ☐ received in Application No. (Series Code/Serial Number) _____ .

      ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   *Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- *SEE OFFICE ACTION ON THE FOLLOWING PAGES* ---

DETAILED ACTION

Answers to Arguments

1.   Applicant's correction to claim 5 is acknowledged. Consequently, objection to

claim 5 is withdrawn.

2.   Applicant canceled claim 13. Consequently, rejection to claim 13 under 35

U.S.C. 112, second paragraph is withdrawn.

3.   Applicant's amendments to claims 1 and 4 are acknowledged. Consequently,

rejection to claims 1-6 under 35 U.S.C. 101 are withdrawn.

4.   Applicant's arguments regarding claims 1-12, 14-20 have been fully considered but

they are moot in view of the new ground(s) of rejection presented in this Office Action.

Claim Objections

5.   Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. Note claim 15 merely repeats

the limitation of its parent claim 14, lines 12-15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-12, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallant (US 4,648,036), in view of Boyle (US 4,646,229).

Regarding claim 1, the claimed data structure comprising a plurality of data areas in which given time series data pieces are loaded in a sequence of time merely reads on a plurality of tables storing data in the system of Gallant (see Figures 4-6). The claimed bookmark information areas each having a pair of bookmark information indicative of time and state of the data merely reads on the fact that a code field and key fields are used to identify the state of the data (see column 2, lines 21-59). The claimed online state is indicated by the code field being set to a first value. The claimed loading state is indicated by the code field being set to a second value. Gallant explicitly shows that the key fields contain relevant search parameters for a given table defined by a user (see column 4, lines 2-6). Furthermore, it is well known in the art to keep track of time-ordered data items as shown by Boyle (see column 1, line 57-66). Therefore, it would have been obvious to one of ordinary skill in the art to include in a key field of the data structure taught by Gallant information indicative of a time corresponding to a time series data piece loaded in each table in order to allow searching of time-ordered data in a database.

Claim 4 differs from claim 1 only by reciting data pieces loaded at "predetermined locations" and "predetermined" bookmark information areas. Clearly storing data in a

database requires predetermined location for storage. The claimed predetermined

bookmark areas merely read on the location of a code and key fields storing status

information (See Figure 2).

Claims 2, 5 merely recite the well known fact that no data storage has unlimited space and

that bookmark indicators can be read consecutively. Clearly, since data is stored in

consecutive tables in a database, the bookmark indicators are also read consecutively (see

Figures 2, 4-6).

Regarding claims 3, 6, Gallant disclosed the claimed state transition information when

Gallant shows the update, non-update and post-update states. The claimed online state is

indicated by the code field being set to a first value. The claimed loading state is indicated

by the code field being set to a second value and the claimed empty state is indicated by

the code field being set to a third value (see the abstract, column 2, lines 21-59).

Claim 7 corresponds to a method utilizing the data structure recited in claim 1 with the

added limitation of providing also a value indicating a state in which data is empty.

Therefore, is rejected for the same reasons discussed in claims 1 and 3 above.

Claims 8, 9 merely read on responding to data retrieval request by reading the code field

and key field in the method of Gallant and providing the data requested if such data is

available.

Claim 10 merely reads on responding to data deletion request by reading the code field

and key field in the method taught by Gallant.

Claim 11 adds the limitation of storing data pieces for a predetermined time and adding a

bookmark identifying the collection in the storage area. It would have been obvious to one

of ordinary skill in the art to do so in order to identify a collection of data by the same

bookmark for easy retrieval in the method taught by Gallant.

Regarding claim 12, Gallant discloses a database management method including adding

bookmark information indicating state transition when Gallant shows that the code field

value is indicative of the state of the data (see column 2, lines 21-59). Gallant explicitly

shows that key fields are used to add relevant search parameters (see column 4, lines 2-6).

The claimed start area information having a flag and an address area merely read on key

fields taught by Gallant. Furthermore, Boyle explicitly shows the concept of a time-

ordered database (see the abstract). Therefore, it would have been obvious to one of

ordinary skill in the art to include adding all the claimed information to the key fields in the

method of Gallant in order to keep track of the time, state, address and identity of each

data piece in the database.

Regarding claim 14, Gallant discloses a database managing method including reading

bookmark information and writing bookmark information when Gallant shows that the

code field values change according to the state of the data (see the abstract, column 2, lines 21-59). Claim 14, lines 3-11 merely reads on the fact that after deletion, the code field is set to a third value. Lines 12-15 merely reads on the fact that data is loaded to the empty areas detected. Lines 16-22 merely reads on the fact that the code field is set to a first value indicating that data is available. Furthermore, it is well known in the art as shown by Boyle to timestamp data in a database (see the abstract). Therefore, it would have been obvious to one of ordinary skill in the art to include loading data in sequence of time as claimed in order to time-order the database for future execution.

Claim 15 merely repeats the limitation of its parent claim 14, lines 12-15, therefore, is rejected for the same reasons discussed in claim 14 above.

Claim 16, 17, 18, 19 are rejected for the same reasons discussed respectively in claims 8, 9, 10, 11 above.

Regarding claim 20, Gallant discloses a database managing system (see the abstract). Boyle discloses a time-ordered database (see the abstract). Since a time ordered-database would allow future execution as shown by Boyle, it would have been obvious to one of ordinary skill in the art to implement the database of Gallant as a time-ordered database. Furthermore, lines 2-5 merely recites components indispensable for any computer system to store timestamped data. The claimed database is met by element 130. The claimed bookmark information is met by the code field and key fields shown by Gallant. The

claimed online, loading and empty state merely read on the first, second and third value of

the code field respectively indicating whether data is available or is being updated or had

been deleted.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Uyen Le whose telephone number is (703) 305-4134. The

examiner can be reached on Monday through Thursday from 7:00am to 5:30pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor,

Thomas Black can be reached on (703)305-9707.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington D.C. 20231

or faxed to: (703)308-9051, (for formal communications intended for entry)

or: (703)308-5403 (for informal or draft communications, please label
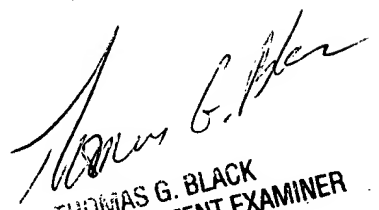
PROPOSED or DRAFT)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Group receptionist whose telephone is (703)305-

3900.

UL

03/23/00

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 2700